

# **Housing Policy Debate**



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# Homelessness Interventions in Georgia: Rapid Re-Housing, Transitional Housing, and the Likelihood of Returning to Shelter

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#### **ABSTRACT**

Since 1987, billions of dollars in homeless assistance have been allocated annually by the U.S. federal government. Yet few evaluations of homelessness interventions exist. This study analyzes the likelihood that households in Georgia returned to shelter within two years of leaving one of three interventions: rapid re-housing (RRH), transitional housing (TH), and emergency shelter (ES), with the latter serving as a reference. Using propensity scores, RRH households were matched to comparable TH and ES households. Generalized linear mixed modeling then controlled for household characteristics as well as variation between intervention implementations. We find that the likelihood of returning to shelter did not seem to be affected by whether study households were gradually transitioned or rapidly placed into housing. Additionally, the effect of TH for households without children seems highly dependent on the intervention's implementation, which deserves further study. Our findings are generalizable to a small, better resourced segment of the general homeless population.

#### ARTICI F HISTORY

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#### **KEYWORDS**

Homeless; rapid re-housing; transitional housing

Since the 1987 passing of what was later renamed the McKinney-Vento Homeless Assistance Act, the U.S. federal government has been heavily involved in funding and regulating homelessness interventions. The Obama administration expanded this commitment. In February 2009, as part of a larger economic stimulus, Congress created the Homelessness Prevention and Rapid Re-Housing Program (HPRP)—ensuring that new forms of homeless assistance were funded and implemented in many communities where they previously had no presence. Three months later, the Homeless Emergency Assistance and Rapid Transition to Housing (HEARTH) Act reauthorized and amended McKinney-Vento. In 2010, the U.S. Interagency Council on Homelessness (USICH) articulated an ambitious plan to end veteran homelessness by 2015, chronic homelessness by 2017, and family homelessness by 2020 (U.S. Interagency Council on Homelessness, 2015a). From fiscal year 2010 through 2016, the Obama administration allocated an estimated \$32.8 billion for targeted homeless assistance funding via seven federal agencies (U.S. Interagency Council on Homelessness, 2015b, 2016). Despite this longstanding and deepening federal engagement with mass homelessness, only a handful of studies have evaluated the effects of homelessness interventions on any outcome. As the United States continues its efforts to end homelessness, it is worth investigating: What works? To what extent? And for whom?

Researchers have recently begun grappling with these questions. The Family Options Study—a national 12-site experiment—is the most sophisticated attempt to date. Study investigators recruited families in homeless shelters and randomly assigned priority offers to various housing interventions



and usual care (Gubits et al., 2015). The present study builds on the Family Options Study, as well as some others that we review below. We address many of the limitations of these studies and point to important gaps in the literature on homelessness interventions. Although our study is not an experiment and thus does not have as strong internal validity as does Gubits et al., we conduct a treatment-on-the-treated analysis and attempt to mimic an experimental design using quasi experimental methods. We detail our methods below.

The present study evaluates and compares two homelessness interventions: rapid re-housing (RRH) and transitional housing (TH), as implemented in the state of Georgia. We exclude transitional housing programs designated for domestic violence survivors, because of data limitations. To our knowledge, ours is the third study that compares the housing stability outcomes of TH and RRH, and the only one that does so while controlling for organizational context. RRH was introduced to Georgia via the 2009 stimulus, whereas TH had already been funded by jurisdictions across Georgia for several years. These interventions have very different programmatic approaches and assumptions of what homeless services should offer based on implicit understandings of why people experience homelessness (Gubits et al., 2015). It is thus plausible that these interventions would yield different outcomes. Investigating this may provide information useful for guiding public policy (Cunningham, Gillespie, & Anderson, 2015).

As its name suggests, a key goal of RRH is to move households rapidly from homeless shelters to independent housing—preferably in a matter of weeks. Households are moved directly into apartments in the private market (with their own names on the lease) and receive partial rental assistance and limited services from the service provider for up to a year. Eligible services depend on the funding source. In Georgia, all RRH programs are funded through the U.S. Department of Housing and Urban Development (HUD) Emergency Solutions Grants (ESG) Program, which restricts RRH services to housing search and placement, housing stability case management, landlord—tenant mediation, tenant legal services, and credit repair (U.S. Department of Housing and Urban Development, 2016).<sup>2</sup>

When RRH support ends, households are expected to retain their housing without further assistance from the homeless system of care. As such, RRH is best conceived of as an immediate bridge out of homelessness, with the expectation that any additional household needs will be met by other service systems (Gubits et al., 2015; Taylor, 2014). RRH proponents note that this approach minimizes the duration of a period of homelessness (and hence its trauma) and provides households with greater autonomy. RRH implicitly assumes that the root cause of homelessness is housing unaffordability (Gubits et al., 2015).

The target population for RRH is officially broad, but narrower in practice. HUD stipulates that RRH is appropriate for households who need assistance to escape homelessness—regardless of their income level, disabilities, and rental history. However, households who would benefit from a "therapeutic residential environment," such as those recovering from addiction, are considered outside the official target population (U.S. Department of Housing and Urban Development, 2014b, p. 2). Some unofficial guidance appears to restrict RRH further. The National Alliance to End Homelessness has stressed that RRH is designed for those who need only temporary supports, and that therefore "some [clients] will have disabilities...but most will not" (Wherley, 2009, p. 4). In guidance distributed by the National Coalition for the Homeless, RRH is not always considered appropriate for households deemed to have serious or severe barriers to obtaining or retaining rental housing (e.g., a very poor rental history); such households can instead be referred to TH or other interventions that offer more-intensive services (Phillips & Downing, 2010).

Indeed, available data indicate that individual RRH programs often adopt eligibility restrictions beyond those recommended by HUD. Among 1,924 families screened for 27 RRH programs across 12 cities in the United States, 30% were subject to a minimum income or employment requirement. Smaller (but still meaningful) percentages of families were subject to requirements related to sobriety, drug testing, or participation in treatment; absence of criminal history; and citizenship or legal status, among others (Gubits, Spellman, Dunton, Brown, & Wood, 2013).

TH is an alternative approach for ending experiences of homelessness. Here, we distinguish what we refer to as "mainstream" TH programs from those designated for domestic violence survivors (which are outside the scope of this study). Mainstream TH programs have their origin in the fields of mental

health and corrections (Burt, 2010). The goal of such a program is to offer a supervised, structured setting in which to gradually transition a household to a state of residential independence—usually over a period of six months to two years. Sometimes, this process takes place in the private market, with service providers maintaining apartment leases for households. However, most TH programs in Georgia were project based during the time of this study, with households residing in central facilities owned and operated by service providers. TH pairs housing provision with intensive supportive services such as case management, life-skills training, employment services, mental health and substance-use treatment, and childcare (Burt, 2010; Gubits et al., 2015). Mainstream TH implicitly assumes that its targeted population continues to experience homelessness in part because of deficiencies in individual behavior, skill, social capital, and/or health. Hence, these deficiencies must be addressed comprehensively before clients can be expected to successfully maintain housing on their own (Burt, 2010).

Consequently, TH tends to target households who are considered unable to maintain housing without also receiving intensive services. Such households often consist of those experiencing mental illness, addiction, involvement with child protective services, and/or a repeat episode of homelessness (Burt, 2010). Still, in practice, TH programs sometimes avoid households who are hardest to serve. For example, Burt (2010) found that, among 36 TH programs across the United States, 86% had a policy against serving active substance users, and 25% had a policy against serving former users who had been sober for less than six months. Another study found that, among 1,564 families screened for 46 project-based TH programs across 11 cities in the U.S., 72% were required to meet or agree to obligations related to sobriety, drug testing, or participation in treatment, compared with only 17% of RRH families. Furthermore, families screened for TH faced requirements related to minimum income and employment, no criminal history, and "appropriate family composition," among several other criteria (Gubits et al., 2013, p. 25).

In summary, TH can be conceived of as a holistic approach to ending homelessness, whereas RRH can be conceived of as a targeted approach that focuses on making housing more affordable. In theory, TH targets households who are disadvantaged to the point of needing intensive services, whereas RRH targets a wider range of households. Paradoxically, in practice, some TH programs may be more likely than RRH programs to reject households who are more disadvantaged, especially those troubled by substance use. Thus, it is difficult to anticipate a priori who these interventions will target in a given locale, such as Georgia. Regardless of the populations that TH and RRH intend to target, in practice there is likely some overlap—that is, there is likely a subpopulation that could conceivably utilize either intervention. Research comparing the RRH and TH intervention models would contribute to determining best practices for households within this subpopulation.

There are many outcomes to be considered in evaluating homelessness interventions. For example, Gubits et al. (2015) measured a large collection of outcomes across five domains: housing stability, family preservation, adult well-being, child well-being, and self-sufficiency. However, most evaluations of RRH and TH prioritize housing stability outcomes. Specifically, they tend to investigate the prevalence of permanent exits from homelessness or, conversely, returns to homelessness—usually as estimated by returns to emergency shelter. This outcome is particularly important, because it represents a shared, explicit target of both interventions. Therefore, the present study evaluates the success of RRH and TH at preventing returns to shelter.

#### Literature Review

# **Evaluations Comparing RRH and TH**

As noted above, the most prominent evaluation of homelessness interventions is the Family Options Study, a national experiment conducted by Gubits et al. (2015) in which families in 12 urban communities received either usual care (UC) or priority access to an intervention: permanent subsidy, communitybased rapid re-housing (CBRR), or project-based transitional housing (PBTH). Families were recruited in shelters between 2010 and 2012, then randomly assigned to these experimental conditions. When comparing CBRR (n = 179) with PBTH (n = 197), statistically significant differences emerged, Families

assigned to CBRR were more likely than PBTH families to report experiencing one night of homelessness (defined as staying in an emergency shelter or a place not meant for human habitation) in the 6 months prior to the 20-month follow-up survey, and on average they experienced a greater number of days homeless during that same period. However, within the subset of housing stability outcomes selected a priori for the executive summary, there were no statistically significant differences between CBRR and PBTH. In particular, 19.9% of families assigned to CBRR stayed in an emergency shelter during months 7 to 18 after random assignment (based largely on administrative records of the local Homelessness Management Information Systems or HMIS), compared with 18.5% of families assigned to PBTH. Of all the outcomes in Gubits et al., this latter outcome is most comparable with those of other evaluations, reviewed below.

By having an experimental design and purposively sampling families from 12 sites across the United States, the Family Options Study is easily the most rigorous evaluation of homelessness policy to date. Still, with its intent-to-treat design, the study evaluates only the impacts of intervention *assignments*, rather than the impacts of the interventions themselves. Although it can be strongly inferred that the impact of assignments has something to do with the interventions, it is difficult to know the extent to which this is true—especially since, among families offered CBRR and PBTH, only 60% and 54% took up their offers, respectively (Gubits et al., 2015). This was an unavoidable limitation as families could not be forced to enroll in the interventions to which they were randomly assigned. In addition, the study is generalizable only to urban areas.

The only other comparison of RRH and TH is Rodriguez's (2013) analysis of people who exited Georgia homeless programs during the first year of RRH implementation in the state (n = 9,013). The study found that 7.2% of RRH clients returned to shelter within two years, compared with 29.2% of TH clients. After using logistic regression to control for several individual characteristics, the odds of returning to shelter were 2.5 times greater for TH clients than for RRH clients. Although several household characteristics were controlled for,<sup>3</sup> the analysis did not account for selection effects. As discussed above, TH officially targets households who are relatively disadvantaged; thus, it is possible that Rodriguez's findings misleadingly inflate the odds ratio of the TH group. Compounding this, the regression analysis did not control for economic resources possessed by households at the start of their respective interventions, which may have confounded intervention effects.

## **Evaluations of RRH and Evaluations of TH**

Other research has evaluated each intervention separately from the other. Returning to the Family Options Study, Gubits et al. (2015) found that 26.4% of CBRR families (n = 455) experienced a stay in emergency shelter during months 7 to 18 after random assignment, compared with 28.4% of comparable UC families (n = 451). On the other hand, 18.9% of PBTH families (n = 294) experienced a stay in emergency shelter during months 7 to 18 after random assignment, compared with 27.1% of comparable UC families (n = 262). Overall, the PBTH group had consistently better housing stability outcomes than the UC group did, whereas the CBRR group did not. However, given that these outcomes were recorded less than two years after participants enrolled, many families had not yet exited their PBTH programs—potentially yielding conservative estimates of family homelessness and shelter enrollment during the follow-up period for the PBTH group. In addition, since families in the CBRR versus UC contrast and families in the PBTH versus UC contrast were not part of the same randomized set, their comparison is less valid than results from the CBRR versus PBTH contrast (discussed above).

As part of the HPRP demonstration study, HUD awarded funds to 23 urban communities across the United States, for the purpose of implementing and evaluating RRH for families experiencing homelessness who had "moderate barriers" to housing placement.<sup>5</sup> Among 1,459 families who exited RRH programs in 22 of these communities, 6% returned to either emergency shelter or transitional housing within a year. Analysis of returns to homelessness relied on data from each community's HMIS (Spellman, Henry, Finkel, Matthews, & McCall, 2014). Thus, families returning to homeless programs in other jurisdictions would not have been recorded as doing so.

In her evaluation of RRH in Philadelphia, Taylor (2014) found that 13.6% of all households who received RRH assistance from October 2009 through May 2012 (n = 1,169) returned to shelter before August 5, 2013, compared with 39.3% of comparable non-RRH households (n = 1,286). She mitigated selection bias by using propensity score matching to obtain comparable groups prior to the analysis. However, the follow-up period used to obtain outcomes was not consistent for each household; it ranged from 14 months to more than 4 years. Additionally, Taylor had a significant geographical limitation: Since she relied on data from Philadelphia's HMIS, returns to shelter would not have been observable for households who moved out of Philadelphia city limits.

Drawing on national data from the Supportive Services for Veteran Families (SSVF) program, Byrne, Treglia, Culhane, Kuhn, and Kane (2016) conducted separate analyses for households with children (n = 4,106) and households without children (n = 19,554)—the only RRH evaluation to do so. They found that, among veterans in families, 9.4% and 15.5% of those exiting RRH returned to shelter within one and two years, respectively; the corresponding rates among single veterans were 16.0% and 26.6%, respectively. Additionally, Byrne et al.'s evaluation of RRH is the most geographically diverse. Study participants' most recent permanent addresses spanned 1,495 counties—about half of all counties in the United States. Unlike other studies, Byrne et al. controlled for clustering; they nested households within counties, although all county-level variables proved to be highly insignificant in predicting returns to shelter. Their study is limited in that it acquired data only from the SSVF homeless services system. This restricts its generalizability to homeless veterans and their families—a relatively small subset of the general homeless population. Reliance on SSVF data also weakens the study's internal validity in that veteran households who returned to shelters within the mainstream homeless services system would not have been recorded as doing so.

Quantitative evaluations of TH are sparse and specific to households with children. Burt's (2010) analysis of 36 TH programs in five communities across the United States found that between 2.1% and 10.3% of families studied returned to homelessness in the 12 months following program exit (n = 195). However, the study only included families whom TH programs considered "successful graduates"—a designation with no consistent definition across programs. Fischer's (2000) evaluation of a family TH program in Atlanta, Georgia, did not report how many families returned to homelessness, but found that 43% of former residents who entered the program between 1991 and 1995 had their own unsubsidized apartment at follow-up (in the fall of 1995), and that another 36% of former residents possessed a housing voucher at follow-up (n = 44). To our knowledge, this is the extent of the scholarly evaluative literature for TH.

#### Limitations of the Literature

Overall, evaluations of RRH and TH have been scarce, existing evaluations have many limitations, and the literature as a whole is patchwork and inconsistent. Much of this is visualized in Table 1. Some limitations are worth emphasizing. First, only two studies have compared RRH and TH with each other. In these instances, RRH appears as good as (Gubits et al., 2015) or far better than (Rodriguez, 2013) TH at preventing returns to shelter. However, when RRH and TH are analyzed separately, subsequent crossstudy comparison suggests that TH might be better than RRH at preventing returns to shelter. A further complication is that, of the seven studies reviewed, four are generalizable only to families, and two fail to distinguish household types altogether, although the findings of Byrne et al. (2016) suggest that households without children deserve additional study. Additionally, some evaluations were unable to observe returns to shelter that occurred outside of the city or county in which the intervention was located.

Furthermore, only Byrne et al. (2016) conducted a multilevel analysis, and no evaluation of TH or RRH has controlled for organizational effects, specifically. Homelessness interventions imply the presence of organizational structures, because they are always implemented as programs and by service providers. Moreover, there is minimal federal or state regulation of RRH and TH, giving service providers considerable leeway and discretion in how they implement their programs. It is therefore possible that meaningful differences exist in implementation because of organizational policy, available resources,

managerial competence, location, and so on. Moreover, some of these organization-level factors likely impact housing outcomes at the household level. Traditional regression analysis in this situation would increase the risk of Type 1 error associated with intervention effects on the housing stability of households (see Snijders & Bosker, 2012).

Lastly, the literature has significant problems not mentioned so far, related to generalizability and limitations of the dependent variable. The present study does not address these, but we nevertheless flag them for future consideration. Any study that relies exclusively on an HMIS or an SSVF information system necessarily excludes people residing (at the time of data collection) in unsheltered areas, domestic violence shelters, and other homeless programs that for one reason or another do not participate in the information system. Thus, consistently, findings are not generalizable to a very sizable segment of the homeless population. In addition, outcome measures dependent on HMIS or SSVF data are biased since they cannot observe these forms of homelessness. Gubits et al. (2015) and Burt (2010) are the only studies mentioned above that use alternative forms of measurement. Also, most evaluations of homelessness interventions are based on a household-level indicator of returning to shelter. A household-level outcome related to duration of subsequent homelessness or system-level outcomes related to the volume of homelessness might be more relevant to policymakers, since addressing these might do more to reduce the societal costs of homelessness.

The present study does not address all of these limitations, but makes a start. The limitations we attempt to address are outlined below.

# The Present Study

Taking these limitations together, the relative effectiveness of one intervention versus the other for comparable households remains unclear. In the present quasi-experimental study, we address these issues in several ways. In contrast to Rodriguez (2013), we choose households, rather than people, as the unit of analysis (since homelessness is usually a household-level experience). We also focus on the third year that RRH was implemented in Georgia, by which time challenges in implementation were more likely to have been overcome. We include a comparison group to better estimate intervention effects, and we use propensity score matching to reduce selection bias. We conduct all analyses separately for families and households without children. In the modeling stage, we include measures of household economic resources as covariates, and we assume a multilevel data structure that accounts for organization-level variation in the likelihood of returning to shelter. In Table 1, we provide a complete list of the ways in which our study addresses the limitations and restrictions of previous studies. We believe these methodological improvements will yield a clearer understanding of how effectively RRH and TH prevent returns to shelter for the subpopulation targeted by both interventions, whether effectiveness differs by household type, and whether organizational contexts play a role.

We offer several hypotheses. First, we expect that households served by TH are more disadvantaged than households served by RRH are, consistent with who these interventions officially target (described above). Second, we anticipate that RRH prevents returns to shelter at least as well as TH does, in line with Gubits et al. (2015) and Rodriguez (2013). Third, we expect outcomes for TH to improve relative to RRH when narrowing our focus to the subpopulation served by both interventions, because of probable selection bias in the original samples. Fourth, we predict that households without children have worse outcomes than households with children have, on average—consistent with Byrne et al. (2016). Finally, we expect to find meaningful organization-level variance in the likelihood of returning to shelter.

#### Method

#### **Data Collection**

#### **Data Source**

This study draws from Georgia's HMIS—an electronic database used to collect data on clients of homeless service providers. Pathways Community Network Institute, Inc. (PCNI), located in Atlanta,



Table 1. The literature on rapid re-housing and transitional housing; limitations and restrictions addressed by the present study.

Limitation or restriction	Burta	Byrne <sup>b</sup>	Gubits <sup>c</sup>	Rodriguez <sup>d</sup>	Spellman <sup>e</sup>	Taylor
Research design						
Did not directly compare RRH and TH	Χ	Χ			Χ	Χ
No treatment-on-the-treated			Χ			
Nonexperimental <sup>g</sup>	Χ	Χ		Χ	Χ	
No comparison group	Χ	Χ			Χ	
Analysis						
Inconsistent follow-up periods						Χ
Unit of analysis: Individual				Χ		
Household types not differentiated	N/A		N/A	Χ	N/A	Χ
Did not address selection effects	N/A	N/A		Χ	N/A	
Geographically restricted follow-up					X	Χ
Dependent on SSVF admin. data		Χ				
Ignored organization-level variance	Χ	Χ	Χ	Χ	Χ	Χ
Generalizability						
Families only	Χ		Χ		Χ	
Urban areas only	Χ		Χ		Χ	Χ
Veteran households only		Χ				
"Successful graduates"h of programs only	Χ					

Note. RRH = rapid re-housing. SSVF = Supportive Services for Veteran Families. TH = transitional housing.

was responsible for leading the development of Georgia's largest HMIS, with a presence in all 159 counties. Most HMIS do not cover such a large geographic area (nearly 60,000 square miles), which makes Georgia an ideal setting for studying returns to shelter; they can be observed regardless of where they occur in the state. Most emergency shelter (ES), TH, and RRH programs in Georgia participate in this system.

#### Samples and Treatments

Households were included in the sample if they exited an ES, TH, or RRH program between July 1, 2011 and June 30, 2012. HMIS collects data at the program enrollment level; since this study's unit of analysis is the household, one program enrollment was purposively sampled for the head of household, to represent the household as a whole. We applied the following rules to determine which enrollment was sampled. In cases where a household experienced both a TH and an ES enrollment, we sampled the TH enrollment. Similarly, if a household experienced both an RRH and an ES enrollment, we sampled the RRH enrollment. (In both scenarios, the ES enrollment was then counted as a return to shelter if it occurred after the sampled enrollment.) In cases where the same household experienced both a TH and an RRH enrollment (or multiple enrollments of the same intervention) during the sampling period, we sampled the enrollment that occurred earliest and counted the other enrollment(s) as an implicit return to shelter. As a result of these rules, all observations are independent, and no household in the ES group was also enrolled in TH or RRH during the sampling period.

With very few exceptions, clients of TH and RRH programs in Georgia come directly from ES programs. Consequently, the TH and RRH groups can be considered treatment groups, with the ES group representing the absence of treatment beyond shelter. Having a comparison group strengthens the study design by making it easier to estimate the causal effects of TH and RRH.

For purposes of data entry, service providers had been instructed by their grantors to categorize their clients according to the HUD definition of a chronically homeless household ("a disabled individual or family, where the head of household is disabled, who is literally homeless and has been such for at least one year or on at least four separate occasions in the last 3 years, where each occasion lasted for at least 15 days" [U.S. Department of Housing and Urban Development, 2012a, p. 1]). Compared with other program types, RRH programs rarely admitted households experiencing chronic homelessness, so defined. Among households without children, 8.7% of RRH households were designated as chronically

<sup>&</sup>lt;sup>a</sup>Burt (2010); <sup>b</sup>Byrne et al. (2016); <sup>c</sup>Gubits et al. (2015); <sup>d</sup>Rodriguez (2013); <sup>e</sup>Spellman et al. (2014); <sup>f</sup>Taylor (2014); <sup>g</sup>That is, neither experimental nor quasi experimental; hIn Burt (2010), this term was not consistently defined among service providers.

Table 2. Standardized mean differences in head of household characteristics after propensity score matching.

	House	eholds with ch	children <sup>a</sup> Households with			hout children <sup>b</sup>	
Household characteristic	ES vs. TH	ES vs. RRH	RRH vs. TH	ES vs. TH	ES vs. RRH	RRH vs. TH	
Race: White	-0.05	-0.07	-0.02	0.05	-0.08	-0.13	
Gender: Female	0.00	0.00	0.00	0.00	-0.04	-0.04	
Military veteran	0.00	0.00	0.00	0.00	-0.06	-0.06	
Only 1 adult present	0.00	-0.04	-0.04	0.00	-0.15	-0.15	
Had ≥2 children present	0.08	0.01	-0.07				
Had a prior ES enrollment in HMIS	-0.06	-0.04	0.02	0.02	-0.06	-0.08	
Had a disabling condition <sup>c</sup>	0.05	0.10	0.05	0.03	-0.08	-0.11	
Had cash income source	-0.02	0.00	0.02	0.00	0.10	0.10	
Had noncash benefits source	0.00	0.06	0.06	0.04	-0.06	-0.10	
Age (in years)	0.00	-0.02	-0.02	0.03	0.00	-0.03	

Note. ES = emergency shelter; RRH = rapid re-housing; TH = transitional housing; HMIS = homeless management information system. Before matching, n = 1,470, n = 473, and n = 248 for households with children in ES, TH, and RRH, respectively, and n = 7,881, n = 2,016, and n = 131 for households without children in ES, TH, and RRH, respectively. After matching, n = 189 and n = 117 for households with and without children, respectively, in each intervention group.

homeless, compared with 37.7% of TH households and 15.9% of ES households. Among households with children, only 1.4% of RRH households were designated as chronically homeless, compared with 8.0% of TH households and 4.2% of ES households. To prevent a particularly egregious manifestation of selection bias, we excluded all households designated as chronically homeless at the time of program entry. Consequently, this study's findings and interpretations only apply to households that would not have been designated as chronically homeless under the HUD definition.

In homeless systems of care, households with children are often segregated from households without children. Further, both the resources and the needs of these households differ; families experiencing homelessness are more similar to other poor families than they are to households without children experiencing homelessness (Shinn, 2009). Thus, we analyzed households with and without children separately: One sample consisted of 2,191 families and the other consisted of 10,217 households without children. Among households with children, 1,470, 473, and 248 households were sampled in the ES, TH, and RRH groups, respectively. Among households without children, 7,881, 2,016, and 131 households were sampled in the ES, TH, and RRH groups, respectively.

# **Propensity Score Matching**

We used propensity score matching to mitigate selection bias in our samples. In the context of the present study, this matching method assumes that observed household characteristics at program entry reflect propensities of being served by particular interventions. Each household has a set of three propensities—one for each intervention group—that adds up to 100%. Table 2 lists the variables used to estimate propensities. Since RRH served the fewest households, we adapted Rassen, Doherty, Huang, and Schneeweiss's (2013) SAS macro version 2.4.15 to match each RRH household with one ES household and one TH household with similar (if not identical) sets of intervention propensities. As Rassen et al. (2013) demonstrate, this method of creating 1:1:1 matched sets is less biased and yields better covariate balance than other popular 1:1:1 matching methods. For 59 families and 14 households without children in RRH, we were unable to find ES and TH matches. The matched households were comparable across interventions; we achieved acceptably low standardized mean differences in household characteristics after two iterations for households with children and one iteration for households without children (see Table 2).

<sup>&</sup>lt;sup>a</sup>After two iterations of matching; <sup>b</sup>After one iteration of matching; <sup>c</sup>Defined as <sup>a</sup> diagnosable substance abuse disorder, a serious mental illness, developmental disability, or chronic physical illness or disability, including the co-occurrence of two or more of these conditions" (U.S. Department of Housing & Urban Development, 2007, p. 4).

# **Analysis Plan**

#### Measures

The independent variable was intervention type. There were also several covariates: dichotomous demographic characteristics of the head of household (nonwhite race, Hispanic ethnicity, female, and military veteran), as well as dichotomous characteristics of the head of household at the time of program entry: not with another adult, had a disabling condition ("a diagnosable substance abuse disorder, a serious mental illness, developmental disability, or chronic physical illness or disability, including the co-occurrence of two or more of these conditions" [U.S. Department of Housing and Urban Development, 2007, p. 4]), had a cash income source, and had a noncash benefits source (e.g., Medicaid). Age at program entry was the only continuous variable. The dependent variable was a dichotomous measure of whether the head of household returned to a shelter within two years of exiting a program.

# **Analytic Method**

After performing a descriptive analysis of the samples and calculating the simple impacts of the treatments, we used SAS software (PROC GLIMMIX) to fit generalized linear mixed models. The first of these were null models, which we used to calculate the total percentage of outcome variance explained at the organization level, for each household type. We then controlled for intervention type to calculate the total organization-level variance unexplained by interventions. A final model was fitted for each household type by adding in all the predetermined covariates. Parameters were estimated by Laplace approximation, as suggested by Snijders and Bosker (2012). To conserve statistical power, all slopes were fixed; in doing so, we assume that the effects of household characteristics on the outcome do not significantly vary at the organization level.

#### Results

#### Sample Demographics Before and After Matching

## **Before Matching**

As expected, RRH households appear to have had numerous advantages over TH households, on average (see Table 3). These advantages were especially substantial among households without children. Most striking are the differences in whether heads of household had cash income sources: RRH heads had much better access to income than TH heads did, especially among households without children. Among households without children, RRH heads had better access to noncash benefits than TH heads did, whereas TH heads were more likely to have a disabling condition than RRH heads were. Additionally, RRH was substantially more likely than TH to admit multiple-adult households, especially those without children. This last difference potentially conferred numerous other advantages to RRH households, such as higher potential household incomes and increased access to childcare.

Some findings were inconsistent with this pattern. RRH families were more likely to have multiple children than TH families were, which may have offset some of their economic advantage. Among households without children, RRH heads were slightly more likely than TH heads to have had a previous shelter episode—a characteristic found elsewhere to be strongly predictive of returning to shelter (e.g., Byrne et al., 2016; Rodriguez, 2013). Despite these apparent disadvantages for RRH households, it is likely that, overall, the unmatched samples inflate the apparent effectiveness of RRH relative to TH, especially for households without children.

There were other notable demographic differences between the intervention groups. Among households without children, nearly half of all RRH households were headed by women, compared with one quarter of TH households and one third of ES households. Among families, RRH heads were disproportionally white. In both samples, TH heads were more likely to be military veterans. It is unclear whether any or all of these differences directly conferred an advantage to one intervention group or another. However, they do reinforce the need for matched samples, even if matching limits the generalizability of subsequent findings.

Table 3. Characteristics of heads of household at program entry, before matching.

	House	eholds with c	hildren	Households without childre		
Household characteristic	ES	TH	RRH	ES	TH	RRH
N	1,470	473	248	7,881	2,016	131
Race: African American (%)	82.5	83.7	75.0	65.6	70.7	69.5
Race: White (%)	13.5	12.5	22.2	30.3	24.7	26.0
Race: Other (%)	4.0	3.8	2.8	4.2	4.5	4.6
Ethnicity: Hispanic/Latino (%)	2.4	2.8	2.8	2.9	2.8	3.1
Gender: Female (%)	91.9	88.2	88.3	33.3	24.3	47.3
Military veteran (%)	3.1	8.0	2.9	11.0	19.8	8.4
Age (mean years)	31.7	32.2	34.0	41.2	42.3	43.0
Only adult in the household (%)	80.3	81.0	68.6	97.6	97.9	79.4
Had ≥2 children present (%)	29.6	27.9	37.1			
Had a prior shelter episode (%)	14.8	17.8	17.3	23.0	26.7	35.1
Had a disabling condition <sup>a</sup> (%)	10.3	11.7	10.5	18.7	37.8	23.9
Had any cash income source (%)	37.8	64.1	75.8	29.7	38.0	83.1
Had any noncash benefits source (%)	65.5	71.3	71.3	33.2	32.5	42.3

*Note.* ES = emergency shelter; RRH = rapid re-housing; TH = transitional housing.

Finally, across intervention groups, there were several demographic differences between household types. Compared with heads of families, heads of households without children were disproportionally white, male, single, and disabled; they were also more likely to be a military veteran, more likely to have been in shelter previously, less likely to have a cash income source, and less likely to have a noncash benefits source. Heads of households without children were on average roughly 10 years older than heads of families were. These differences support our decision to analyze household types separately.

#### After Matching

The matched samples represent, as best we can estimate, the households that were equally likely to be in RRH as in TH during the study year. In other words, they were possible candidates for both interventions—which is not true of all households in the overall homeless population. Thus, the matched samples represent subpopulations that may differ in important ways from the overall homeless population in Georgia. Describing these differences is an important prerequisite to generalizing our study's findings.

To do this, we added the chronically homeless households back into the unmatched samples and compared with the matched. The most striking difference is the percentage of households with cash income and, to a lesser extent, noncash benefits (see Table 4). For both household types, the presence of cash income was more than twice as common in the matched subset. For families, the presence of noncash benefits was more than 1.5 times as common in the matched subset. In other words, the typical household in each matched sample appears much better resourced than the typical household experiencing homelessness in Georgia. Largely because of its exclusion of chronically homeless households, households in the matched subsets were also less likely to be headed by a man, a veteran, or someone with a disabling condition. Therefore, the results that follow are not generalizable to Georgia's homeless population, but to a better resourced subset with some important demographic differences.

# Intervention Impacts

Next, we estimate the impacts of the interventions on the rates at which heads of household returned to shelter, for both household types. Table 5 reports these estimates before and after propensity score matching. Although our study focuses on the subpopulation represented by the matched samples, comparison with the unmatched samples provides useful information on the extent to which matching reduced selection bias.

<sup>&</sup>lt;sup>a</sup>Defined as "a diagnosable substance abuse disorder, a serious mental illness, developmental disability, or chronic physical illness or disability, including the co-occurrence of two or more of these conditions" (U.S. Department of Housing & Urban Development, 2007, p. 4).



**Table 4.** Comparison of matched subsets with full samples.

	Househol	ds with children	Households without children		
Household characteristic	All	Matched subset	All	Matched subset	
N	2,292	567	12,728	351	
Race: African American (%)	82.2	82.5	67.9	70.9	
Race: White (%)	17.5	14.6	27.8	24.2	
Race: Other (%)	10.9	2.8	4.2	4.8	
Ethnicity: Hispanic/Latino (%)	9.8	2.6	2.6	2.9	
Gender: Female (%)	69.3	94.7	30.1	45.9	
Military veteran (%)	10.7	0.5	14.7	8.8	
Age (mean years)	29.7	32.4	42.3	42.9	
Only adult in the household (%)	62.9	80.1	97.4	89.7	
Had ≥2 children present (%)	31.0	35.8			
Had a prior shelter episode (%)	18.8	16.8	26.4	32.2	
Had a disabling conditiona (%)	17.3	6.4	38.3	22.8	
Had any cash income source (%)	34.5	75.3	33.9	82.9	
Had any noncash benefits source (%)	53.6	80.4	35.0	39.6	

*Note.* <sup>a</sup>Defined as "a diagnosable substance abuse disorder, a serious mental illness, developmental disability, or chronic physical illness or disability, including the co-occurrence of two or more of these conditions" (U.S. Department of Housing & Urban Development, 2007, p. 4).

**Table 5.** Intervention impacts on percentage of households returning to shelter within two years.

	Hous	seholds with ch	nildren	Households without children		
Contrast (A vs. B)	А	В	Impact	А	В	Impact
Unmatched sample <sup>a</sup>						
TH vs. ES	11.2	27.2	-16.0***	21.4	35.1	-13.7***
RRH vs. ES	8.9	27.2	-18.3***	12.2	35.1	-22.9***
RRH vs. TH	8.9	11.2	-2.3	12.2	21.4	-9.2*
Matched sample <sup>b</sup>						
TH vs. ES	9.5	23.8	-14.3***	18.0	39.3	-21.3***
RRH vs. ES	10.1	23.8	-13.7***	13.7	39.3	-25.6***
RRH vs. TH	10.1	9.5	0.6	13.7	18.0	-4.3

Note. ES = emergency shelter. RRH = rapid re-housing. TH = transitional housing. Chi-square tests were used to determine statistical significance.

We begin with the matched samples. For each intervention group, households without children were significantly more likely than households with children to return to shelter, consistent with the findings of Byrne et al. (2016). Among households with children, the estimated impacts of TH and RRH on the outcome were large compared with ES, but about equal to one another. Among households without children, the estimated impacts of TH and RRH were even larger compared with ES—and although the estimated impact of TH was slightly less than that of RRH, this difference was not statistically significant.

Curiously, propensity score matching decreased the estimated impacts of both RRH and TH compared with ES among households with children, but it had the opposite consequence among households without children. This implies that analyses of unmatched samples will overestimate the impacts of RRH and TH on the rate at which families return to shelter, but *underestimate* these impacts for households without children. For both household types, propensity score matching slightly bolstered the estimated impact of TH relative to RRH.

<sup>&</sup>lt;sup>a</sup>Among households with children, n = 1,470, n = 473, and n = 248 for ES, TH, and RRH, respectively; among households without children, n = 7,881, n = 2,016, and n = 131 for ES, TH, and RRH, respectively.

<sup>&</sup>lt;sup>b</sup>Among households with and without children, n = 189 and n = 117, respectively, for each intervention group.

<sup>\*</sup>p < .05; \*\*p < .01; \*\*\*p < .001.



# Multilevel Analysis of the Matched Samples

# **Program-Level Effects**

Within the matched sample, programs accounted for a meaningful amount of variability in the rate of return to shelter. Among households with and without children, between-program differences accounted for 12% and 24% of total variance in the outcome, respectively. After taking intervention effects into account, unexplained between-program differences accounted for 6% and 19% of total variance for households with and without children, respectively.

Additionally, we can repeat this analysis within each intervention type to learn whether betweenprogram differences were more influential for certain interventions than for others. Among families, between-program differences accounted for 0%, 5%, and 10% of total outcome variance within ES (k = 43 programs), TH (k = 55 programs), and RRH (k = 17 programs), respectively. Among households without children, between-program differences accounted for 21%, 47%, and 0% of total outcome variance within ES (k = 39 programs), TH (k = 52 programs), and RRH (k = 15 programs), respectively. The low number of RRH programs makes the RRH results less certain.

# Intervention Effects After Controlling for Household Variables

Findings from the multilevel analysis of intervention effects (see Table 6) mostly mirrored the findings from the impact analysis. Here, we report odds ratios as effect sizes. Both the RRH and TH interventions had large effects on the likelihood of returning to shelter, for both household types. The magnitude of intervention effects was greater among households without children. Among families, the effect of TH was slightly bigger than that of RRH; however, the large overlap in the confidence intervals indicates that this was not statistically significant. Among households without children, the effects of TH and RRH were nearly identical.

Other variables were highly associated with the outcome as well. For both household types, but especially for households without children, having had a prior shelter episode was predictive of returning to shelter. Among households with children, but not among households without children, having had a cash income source at the beginning of the intervention was highly predictive of staying out of shelter. No other covariates reached statistical significance.

It is possible that an intervention is more effective for some types of households than for others. For example, RRH could reduce the likelihood of returning to shelter for households with a cash income source at program entry, but not for other households. Consequently, we tested interactions between the interventions and each of the household variables, separately for households with and without children. Out of 44 interaction tests, only two were statistically significant at the .05 level—about what would be expected by chance. In other words, we do not have evidence that RRH and TH lead to different outcomes for different types of families or different types of households without children.

#### Discussion

This study's findings help further our understanding of homelessness interventions, while addressing many of the limitations of previous research. Specifically, we learn more about the effectiveness of mainstream TH (i.e., TH programs not designated for domestic violence survivors) versus RRH, as well as the role played by service providers.

#### The Effectiveness of TH and RRH

Before estimating intervention effectiveness, RRH households were matched to comparable TH and ES households. This appears to have been warranted. As expected, TH and RRH in Georgia tend to serve different populations—perhaps to a greater degree than intended by policymakers. On average, households admitted by RRH appear more advantaged than do households admitted by TH, especially among households with children. Importantly, these differences inflated the estimated impact of RRH



Table 6. Generalized linear mixed models predicting the likelihood of returning to shelter.

Household characteristic		s with children = 556)	Households without children $(n = 344)$		
Program-level	(,,	330)	(7)	311)	
Treatment: RRH (reference = ES)	0.34***	[0.18, 0.63]	0.18***	[0.06, 0.54]	
Treatment: TH (reference = ES)		[0.15, 0.55]		[0.07, 0.53]	
Household-level		- / -		- / -	
Race: Nonwhite	1.33	[0.58, 3.05]	0.71	[0.32, 1.57]	
Ethnicity: Hispanic/Latino	0.52	[0.06, 4.22]	0.21	[0.02, 2.19]	
Male	0.58	[0.15, 2.30]	1.34	[0.64, 2.81]	
Age at program exit (years)	0.99	[0.96, 1.02]	0.98	[0.95, 1.02]	
Military veteran			0.58	[0.17, 2.00]	
More than 1 adult in the household	1.30	[0.66, 2.55]	0.98	[0.30, 3.20]	
More than 1 child in the household	0.91	[0.54, 1.55]			
Prior shelter episode	2.40**	[1.30, 4.42]	4.16***	[2.09, 8.33]	
Disabling conditiona at program exit	1.25	[0.43, 3.61]	0.91	[0.42, 1.97]	
Had cash income source as of program entry	0.35***	[0.20, 0.60]	1.20	[0.48, 2.94]	
Recipient of food stamps as of program exit	1.07	[0.57, 2.02]	1.03	[0.52, 2.04]	
Recipient of Medicaid as of program exit	1.17	[0.66, 2.08]	0.83	[0.14, 4.89]	

Note. ES = emergency shelter; RRH = rapid re-housing; TH = transitional housing. Results are reported as odds ratios (calculated using the maximum likelihood method), with 95% confidence intervals in brackets.

relative to TH, as Table 4 illustrates. This underscores the importance of taking steps to reduce selection bias when comparing TH and RRH outcomes.

Therefore, the remainder of this discussion concerns the matched samples and the subpopulation they represent: households who are targeted by both TH and RRH. Such households, we find, tend to have more economic resources than do other households experiencing homelessness in Georgia. It is important to keep this in mind when attempting to generalize the following.

Our findings indicate that, compared with ES, both mainstream TH and RRH are highly effective at preventing returns to shelter in Georgia, especially among households without children. Households with children who enrolled in neither TH nor RRH during the study period were more than twice as likely as TH and RRH families to return to shelter within two years. The same was true for households without children, although rates of return were significantly higher across interventions. We can conclude that, as expected, both mainstream TH and RRH are indeed helpful with respect to this housing stability outcome. Additionally, the large differences between household types reinforce the need to analyze them separately, as Byrne et al. (2016) argue.

The central question of this study, however, is whether one intervention was more effective than the other for better resourced homeless households. It appears not. Effects of RRH relative to TH were statistically insignificant for both household types. In other words, for households targeted by both interventions, RRH and mainstream TH appear to be equally effective at preventing returns to shelter, on average.

We interpret this favorably for the RRH intervention model. Households are directed to RRH programs if they are thought to need only short-term economic assistance to escape homelessness. In contrast, households are directed to mainstream TH programs if they are thought to need behavioral correction, psychological assistance, and/or healthcare—over and above economic assistance—to escape homelessness. This assumption by TH is not borne out in our findings.

It is important to state that we are not questioning whether TH is an appropriate intervention model. We believe that it is. Rather, we raise the question of which households TH best serves. Since TH is tailored to households in need of a therapeutic environment, it may be better suited for *worse-off* homeless households—many of whom, particularly those experiencing chronic homelessness, are not included in our sample. Our findings raise the possibility that mainstream TH may not be the most suitable

<sup>&</sup>lt;sup>a</sup>Defined as "a diagnosable substance abuse disorder, a serious mental illness, developmental disability, or chronic physical illness or disability, including the co-occurrence of two or more of these conditions" (U.S. Department of Housing & Urban Development, 2007, p. 4).

<sup>\*</sup>p < .05; \*\*p < .01; \*\*\*p < .001.

intervention model for households outside of this target population—that is, for better resourced homeless households. This is based on the observation that the direct provision of intensive services, which distinguishes TH from RRH, does not appear to influence long-term housing stability for these better resourced households.

According to a cost analysis conducted by Gubits et al. (2015), the intensive services associated with TH are very expensive, at least for families. For the average household with children, RRH costs \$878 per month, whereas project-based TH costs \$2,706 per month. Since TH families usually stay in their programs longer, the costs add up: Approximately 21 months after families had been assigned to interventions, Gubits et al. found that the average program cost was \$32,557 per stay in TH and \$6,578 per stay in RRH. The intensive design of TH suggests a similar difference in intervention cost for households without children, although this has not been empirically verified. It seems safe to conclude from our findings and other research that, based on cost and housing stability outcomes alone, homeless systems of care would be justified in increasing the availability of RRH for better resourced homeless households. Doing so might allow a homeless system of care to serve more people without compromising the system's effectiveness at stabilizing them.

However, cost is not the only consideration. Project-based TH grants its participants less autonomy over where and with whom they can live. Available qualitative evidence suggests that families turn down offers of project-based TH more often than they do offers of RRH, citing these reasons (Fisher, Mayberry, Shinn, & Khadduri, 2014). Although the same study suggests that the time limits of RRH often produce considerable anxiety for its participants, better funding can ameliorate this. Indeed, making RRH rental subsidies permanent and more generous may even lead to improvements in behavioral and psychological outcomes. Gubits et al. (2015) found that permanent housing subsidies without supportive services had more effects on these outcomes than did service-intensive TH programs.

A final consideration is RRH's aim to move people into housing relatively quickly. Gubits et al. (2015) provide evidence that RRH is modestly successful at this compared with TH: baseline shelter stays lasted 2.0 months on average for families assigned to CBRR who took up CBRR, compared with 2.4 months for families assigned to PBTH who took up PBTH. To our knowledge, no other studies have investigated this. Quick housing placement matters, because the experience of homelessness is traumatic (Deck & Platt, 2015; Goodman, Saxe, & Harvey, 1991; Whitbeck, Armenta, & Gentzler, 2015). If RRH and TH yield similar housing stability outcomes for better resourced households, and if RRH shortens the duration of homelessness more than TH does, then this would be another reason to increase the availability of RRH for better resourced households.

#### The Influence of Homeless Service Providers

Lastly, we find that service providers explain a meaningful amount of variance in the likelihood of returning to shelter for households targeted by both TH and RRH. Subsequent analysis suggests three main conclusions. First, interventions appear to explain between 5% and 6% of the variance in the likelihood that households return to shelter. These very low percentages suggest that homelessness interventions can become much more effective than they currently are. Alternatively, they could indicate a low ceiling for TH and RRH effectiveness; perhaps these particular programmatic approaches can only do so much for this subpopulation.

Second, there is evidence of meaningful organization-level factors beyond the overarching programmatic approaches and philosophies represented by interventions. In other words, for better resourced homeless households, how and by whom interventions are implemented could be at least as influential as *which* interventions are implemented. Among households without children, they could be three times more influential. It is important to note, however, that observed organization-level differences may be at least partially explained by the larger contexts in which organizations are nested—such as counties and regions. For example, variations in economic conditions could impact the ease with which households are able to find and maintain housing. We recommend that future studies attempt to disentangle these organizational and geographic sources of variation.

Third, organization-level effects on the likelihood of returning to shelter differ greatly by intervention and household type. Organization-level factors appear to have the most influence for TH households without children—accounting for nearly half of their total outcome variance. Among *families* served by TH, organization-level factors appear much less influential. We recommend further research into why the apparent effects of TH programs might be less consistent for households without children. Service providers appear to explain relatively little outcome variance within the RRH intervention, but this may be due to the low number of RRH programs in our samples.

Together, these findings point to an important lesson: Future evaluations of homelessness interventions should consider incorporating a multilevel structure that controls for organizational effects. Service providers appear to have much influence over whether households return to shelter, based on how they implement their interventions. This is especially true of TH providers, and it is probably less true of RRH providers. Indeed, TH has more programmatic elements to be varied, whereas RRH is simpler by design. The literature on TH would benefit from a thorough investigation into the formal and informal organizational characteristics associated with whether households return to shelter. Some possible candidates are the number of housing units in the program and whether the program targets a relatively "high risk" population (Burt, 2010).

Finally, our findings support the notion that learning best practices for TH is important. Certain service providers may be high achieving for reasons related to circumstances, location, or management, but others may benefit from particular funding levels, organizational policies, and/or programmatic emphases. Uncovering these characteristics could help facilitate replication of successful TH programs. Qualitative research would be particularly useful here.

#### Limitations

Our study has four important limitations. The first and perhaps most serious is the limited generalizability of the findings. As noted above, our samples excluded households experiencing chronic homelessness as defined by HUD, because so few were served by Georgia's RRH programs. Because we relied on HMIS shelter data, our samples excluded households experiencing unsheltered homelessness (e.g., households sleeping in cars or public parks) and households residing in domestic violence shelters. On a night in January 2012 (near the midpoint of our sampling period) in Georgia, there were 12,196 people in unsheltered situations, 1,030 chronically homeless people residing in homeless shelters, and 1,584 victims of intimate partner violence residing in homeless shelters. Combined, they represented between 67.6% and 72.6% of Georgia's homeless population on that night (U.S. Department of Housing and Urban Development, 2012b). Our unmatched samples represent the remainder. Our matched samples represent a better resourced segment of that remainder (see Table 4). So, the applicability of our findings is extremely limited. They raise questions more than they provide answers, and they are best interpreted in the context of existing research on homelessness interventions.

Second, Georgia's emergency shelters participated in the HMIS at relatively low rates. Domestic violence shelters, as a rule, do not participate. Thus, between 2011 and 2014, the shelter participation rate varied between 52.6% and 62.2% (U.S. Department of Housing and Urban Development, 2014a). Because of this, rates and likelihoods of returning to shelter should be regarded as underestimates. In addition, people who were initially in our sample but later experienced intimate partner violence might have returned to homelessness via a domestic violence shelter, which would have been unobservable to us. We were also not able to observe returns to unsheltered homelessness. If the likelihood of an unobserved return significantly differed across interventions, then estimates of intervention effects might have been biased.

Third, the propensity score matching procedure utilized in this study assumes that all variables influencing household entry into ES, TH, and RRH programs were accounted for in the calculation of propensities (directly or indirectly). The degree to which this assumption was met is the degree to which selection bias was mitigated, which is critical for making valid comparisons of intervention effects on the likelihood of returning to shelter. Overall, our matching procedure did not draw on much information:

only 10 variables, most of which were dichotomous (see Table 2). A critical variable not included was the *amounts* of households' income. It is possible that households with higher incomes are more likely than those with lower incomes to be admitted into RRH programs. Whether this produced deflated rates of return to shelter among RRH households is unclear. Spellman et al.'s (2014) findings suggest not; for households receiving RRH assistance, amount of income at program entry (as a percentage of median family income) was not predictive of returning to shelter. Still, this is not conclusive. Similarly, we did not have access to households' rental histories—a characteristic that may have affected which households received RRH assistance. Therefore, it may be that that RRH households had unobserved advantages compared with TH households, even within the matched samples.

Lastly, geographical context may have confounded intervention effects. For example, it is possible that households in rural areas found it easier or harder to secure housing than households in urban areas did. In addition, economic conditions vary across localities. Compounding this, although the RRH and TH programs analyzed in this study were all located in Georgia, they were not evenly geographically distributed. For example, some counties were home to an RRH program but not a TH program, and vice versa. We were unable to take these factors into account, because we did not have data on program location.

#### **Conclusion**

The dearth of evaluative literature on homelessness interventions is at odds with the priority given to ending homelessness in the United States. Few studies have evaluated RRH and TH, although they are key components of multibillion-dollar homeless assistance allocated annually by the federal government. Only two studies compare RRH and TH directly. Yet a homeless subpopulation exists that is targeted by both interventions. Members of this subpopulation deserve to know which intervention will better reduce their likelihood of returning to shelter. Our quasi experimental evaluation adds to the literature by investigating this, while addressing several of the limitations of previous studies. For a small, better resourced segment of Georgia's homeless population, we find that a requirement to "transition" into housing does not appear to yield better long-term housing stability than rapid placement in housing does, on average. Policymakers may therefore want to increase the relative availability of the RRH option. This would likely generate cost savings and allow providers to serve more households. Our findings further suggest that investigating best practices at the organization level could make a substantial contribution to improving TH outcomes. Lastly, additional evaluation research, including replication of this study, is warranted to further test and generalize the outcomes of homelessness interventions.

#### **Notes**

- Calculated under the assumption that discretionary spending on the U.S. Department of Housing & Urban Development-Veterans Affairs Supportive Housing (HUD-VASH) program in fiscal year 2015 (\$374 million) will remain roughly the same in fiscal year 2016.
- 2. RRH programs are distinct from Housing First supportive housing programs, which rapidly move households into housing but offer intensive services and target chronically homeless persons with disabilities (Cunningham et al., 2015).
- 3. These were dichotomous indicators of previous shelter enrollment, exiting to a temporary destination, being unaccompanied, having no teenage male in the household, being male, being nonwhite, being non-Hispanic, having a disabling condition, and exiting from a program not in a rural county.
- 4. In Gubits et al. (2015), not every family was eligible for every pairwise comparison. Hence, the number of UC families in the CBRR vs. UC comparison differs from the number of UC families in the PBTH vs. UC comparison, and so on.
- 5. What counted as a "moderate barrier" varied among RRH providers. For example, some providers considered "having a low-paying or part-time job" a moderate barrier, whereas others considered "long-term unemployment" a moderate barrier (Burt et al., 2016).



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#### **Disclosure Statement**

No potential conflict of interest was reported by the authors.

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